

## Chapter NR 270

## ORE MINING AND DRESSING

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**NR 270.001 Purpose.** The purpose of this chapter is to establish effluent limitations and standards of performance for discharges of process wastes from the ore mining and dressing category of point sources and its subcategories.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.0015 Applicability.** Abbreviations and methods of analysis set forth in 40 CFR Part 401 shall apply to this chapter except as provided in ss. NR 270.002 and 270.003. The general provisions and definitions apply to all subcategories of this chapter unless otherwise noted.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.002 General definitions.** In addition to the definitions set forth in 40 CFR Part 401, the following definitions apply to this chapter:

(1) "Active mining area" is a place where work or other activity related to the extraction, removal, or recovery of metal ore is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.

(2) "Annual precipitation" and "annual evaporation" are the mean annual precipitation and mean annual lake evaporation, respectively, as established by the U.S. department of commerce, environmental science services administration, environmental data services, or equivalent regional rainfall and evaporation data.

(3) "Appropriate treatment of the recycle water" includes, but is not limited to pH adjustment, settling and pH adjustment, settling, and mixed media filtration.

(4) "Existing source" means any source that is not a new source.

(5) "Groundwater infiltration" means that water which enters the treatment facility as a result of the interception of natural springs, aquifers, or run-off which percolates into the ground and seeps into the treatment facility's tailings pond or wastewater holding facility and that cannot be diverted by ditching or grouting the tailings pond or wastewater holding facility.

(6) "In-situ leach methods" means the processes involving the purposeful introduction of suitable leaching solutions into a uranium ore body to dissolve the valuable minerals in place and the purposeful leaching of uranium ore in a static or semistatic condition either by gravity through an open pile, or by flooding a confined ore pile. It does not include the natural dissolution of uranium by groundwaters, the incidental leaching of uranium by mine drainage, nor the rehabilitation of aquifers and the monitoring of these aquifers.

(7) "Mill" means a preparation facility within which the metal ore is cleaned, concentrated, or otherwise processed before it is shipped to the customer, refiner, smelter, or manufacturer. A mill includes all ancillary operations and structures necessary to clean, concentrate, or otherwise process metal ore, such as ore and gangue storage areas and loading facilities.

(8) "Mine" is an active mining area, including all land and property placed under, or above the surface of such land, used in or resulting from the work of extracting metal ore or minerals from their natural deposits by any means or method, including secondary recovery of metal ore from refuse or other storage piles,

wastes, or rock dumps and mill tailings derived from the mining, cleaning or concentration of metal ores.

(9) "Mine drainage" means any water drained, pumped, or siphoned from a mine.

(10) "Navigable water" has the meaning designated in s. 281.31 (2) (d), Stats.

(11) "New source," as defined for BPT, BAT, BCT, and NSPS, means any point source the construction of which commenced after January 17, 1983.

(12) "Ten year, 24-hour precipitation event" is the maximum 24-hour precipitation event with a probable recurrence interval of once in 10 years as established by the U.S. department of commerce, national oceanic and atmospheric administration, national weather service, or equivalent regional or rainfall probability information.

(13) "U" means uranium as measured by the procedure discussed in 40 CFR 141.25 (b) (2), or an equivalent method.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86; correction in (10) made under s. 13.93 (2m) (b) 7., Stats., Register, November, 1997, No. 503.

**NR 270.003 General provisions. (1) COMBINED WASTE STREAMS.** In the event that waste streams from various subcategories or segments of subcategories in this chapter are combined for treatment and discharge, the quantity and concentration of each pollutant or pollutant property in the combined discharge that is subject to effluent limitations may not exceed the quantity and concentration of each pollutant or pollutant property that could have been discharged had each waste stream been treated separately. In addition, the discharge flow from the combined discharge may not exceed the volume that could have been discharged had each waste stream been treated separately.

(2) **STORM EXEMPTION FOR FACILITIES PERMITTED TO DISCHARGE.** If, as a result of precipitation or snowmelt, a source with an allowable discharge under this chapter has an overflow or excess discharge of effluent which does not meet the limitations of this chapter, the source may qualify for an exemption from such limitations with respect to such discharge if the following conditions are met:

(a) The facility is designed, constructed, and maintained to contain the maximum volume of wastewater which would be generated by the facility during a 24-hour period without an increase in volume from precipitation and the maximum volume of wastewater resulting from a 10-year, 24-hour precipitation event or treat the maximum flow associated with these volumes. In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the facility shall include the volume which would result from all areas contributing runoff to the individual treatment facility, i.e., all runoff that is not diverted from the active mining area and runoff which is not diverted from the mill area.

(b) The facility takes all reasonable steps to maintain treatment of the wastewater and minimize the amount of overflow.

(c) The facility complies with the notification requirements of 40 CFR 122.41 (m) and (n). The storm exemption is designed to provide an affirmative defense to an enforcement action. Therefore, the operator has the burden of demonstrating to the appropriate authority that the conditions have been met.

(3) **STORM EXEMPTION FOR FACILITIES NOT PERMITTED TO DISCHARGE.** If, as a result of precipitation (rainfall or snowmelt), a source which is not permitted to discharge under this chapter, has an overflow or discharge which violates the limitations of this chapter, the source may qualify for an exemption from such limitations with respect to such discharge if the following conditions are met:

(a) The facility is designed, constructed, and maintained to contain the maximum volume of wastewater stored and contained by the facility during normal operating conditions without an increase in volume from precipitation and the maximum volume

of wastewater resulting from a 10-year, 24-hour precipitation event. In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the facility shall include the volume which would result from all areas contributing runoff to the individual treatment facility, i.e., all runoff that is not diverted from the area or process subject to zero discharge, and other runoff that is allowed to commingle with the influent to the treatment system.

(b) The facility takes all reasonable steps to minimize the overflow or excess discharge.

(c) The facility complies with the notification requirements of 40 CFR 122.41 (m) and (n). The storm exemption is designed to provide an affirmative defense to an enforcement action. Therefore, the operator has the burden of demonstrating to the appropriate authority that the conditions have been met.

(4) **PH ADJUSTMENT.** (a) Where the application of neutralization and sedimentation technology to comply with relevant metal limitations results in an inability to comply with the pH range of 6.0 to 9.0, the permit issuer may allow the pH level in the final effluent to slightly exceed 9.0 so that the copper, lead, zinc, mercury and cadmium limitations will be achieved.

(b) In the case of a discharge into natural receiving waters for which the pH, if unaltered by human activities, is or would be less than 6.0 and approved water quality standards authorize such lower pH, the pH limitations for the discharge may be adjusted downward to the pH water quality criterion for the receiving waters provided the other effluent limitations for the discharge are met. In no case may a pH limitation below 5.0 be permitted.

(5) **GROUNDWATER INFILTRATION PROVISION.** In the event a new source subject to a no discharge requirement can demonstrate that groundwater infiltration contributes a substantial amount of water to the tailing impoundment or wastewater holding facility, the department may allow the discharge of a volume of water equivalent to the amount of groundwater infiltration. This discharge shall be subject to the limitations for mine drainage applicable to the new source subcategory.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.01 Applicability: description of the iron ore subcategory.** The provisions of this subcategory are applicable to discharges from:

(1) Mines operated to obtain iron ore, regardless of the type of ore or its mode of occurrence; and

(2) Mills beneficiating iron ores by physical (magnetic and nonmagnetic) or chemical separation, or both.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.012 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30 – 125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable after application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines operated to obtain iron ore may not exceed:

| Effluent characteristic | Effluent limitations    |                         |
|-------------------------|-------------------------|-------------------------|
|                         | Average of daily values |                         |
|                         | Maximum for any 1 day   | for 30 consecutive days |
| Milligrams per liter    |                         |                         |
| TSS                     | 30.0                    | 20.0                    |
| Fe (dissolved)          | 2.0                     | 1.0                     |
| pH                      | (1)                     | (1)                     |

<sup>1</sup> Within the range 6.0 to 9.0

(2) The concentration of pollutants discharged from mills that employ physical (magnetic and nonmagnetic) or chemical methods, or both, to beneficiate iron ore may not exceed:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
| Milligrams per liter       |                       |   |
| TSS                        | 30.0                  | 20.0  |
| Fe (dissolved)             | 2.0                   | 1.0   |
| pH                         | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.013 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines operated to obtain iron ore may not exceed:

| [BAT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
| Milligrams per liter       |                       |   |
| Fe (dissolved)             | 2.0                   | 1.0   |

(2) The concentration of pollutants discharged from mills that employ physical (magnetic and nonmagnetic) or chemical methods, or both, to beneficiate iron ore may not exceed:

| [BAT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
| Milligrams per liter       |                       |   |
| Fe (dissolved)             | 2.0                   | 1.0   |

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.014 New source performance standards (NSPS).** Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from mines operated to obtain iron ore may not exceed:

| [NSPS] Effluent limitations |                       |   |
|-----------------------------|-----------------------|---|
| Effluent characteristic     | Maximum for any 1 day | Average of daily values for 30 consecutive days |
| Milligrams per liter        |                       |   |
| TSS                         | 30.0                  | 20.0  |
| Fe (dissolved)              | 2.0                   | 1.0   |
| pH                          | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(2) The concentration of pollutants discharged from mills that employ physical (magnetic and nonmagnetic) or chemical methods, or both, to beneficiate iron ore may not exceed:

| [NSPS] Effluent limitations |                       |   |
|-----------------------------|-----------------------|---|
| Effluent characteristic     | Maximum for any 1 day | Average of daily values for 30 consecutive days |
| Milligrams per liter        |                       |   |
| TSS                         | 30.0                  | 20.0  |
| Fe (dissolved)              | 2.0                   | 1.0   |
| pH                          | (1)                   | (1)   |

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86

**NR 270.02 Applicability: description of the aluminum ore subcategory.** The provisions of this subcategory are applicable to discharges from facilities engaged in the mining of bauxite as an aluminum ore.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.022 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30 - 125.32, any existing source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT). The concentration of pollutants discharged in mine drainage from mines producing bauxite ores may not exceed:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
| Milligrams per liter       |                       |   |
| TSS                        | 30.0                  | 20.0  |
| Fe (total)                 | 1.0                   | 0.5   |
| Al                         | 2.0                   | 1.0   |
| pH                         | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86

**NR 270.023 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30 - 125.32, any existing point source subject to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT). The concentration of pollutants discharged in mine drainage from mines producing bauxite ores may not exceed:

| [BAT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
| Milligrams per liter       |                       |   |
| Fe (total)                 | 1.0                   | 0.5   |
| Al                         | 2.0                   | 1.0   |

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.024 New source performance standards (NSPS).** Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT). The concentration of pollutants discharged in mine drainage from mines producing bauxite ores may not exceed:

| Effluent characteristic | [NSPS] Effluent limitations |   |
|-------------------------|-----------------------------|---|
|                         | Maximum for any 1 day       | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter        |   |
| TSS                     | 30.0                        | 20.0  |
| Fe (total)              | 1.0                         | 0.5   |
| Al                      | 2.0                         | 1.0   |
| pH                      | (1)                         | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.03 Applicability; description of the uranium, radium and vanadium ores subcategory.** The provisions of this subcategory are applicable to discharges from:

(1) Mines either open-pit or underground, from which uranium, radium and vanadium ores are produced; and

(2) Mills using the acid leach, alkaline leach, or combined acid and alkaline leach process for extraction of uranium, radium and vanadium. Only vanadium byproduct production from uranium ores is covered under this subcategory.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.032 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30 – 125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable after application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines either open-pit or underground, from which uranium, radium and vanadium ores are produced excluding mines using in-situ leach methods may not exceed:

| Effluent characteristic        | [BPT] Effluent limitations |   |
|--------------------------------|----------------------------|---|
|                                | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                                | Milligrams per liter       |   |
| TSS                            | 30.0                       | 20.0  |
| COD                            | 200.0                      | 100.0   |
| Zn                             | 1.0                        | 0.5   |
| Ra226 <sup>1</sup> (dissolved) | 10.0                       | 3.0   |
| Ra226 <sup>1</sup> (total)     | 30.0                       | 10.0  |
| U                              | 4.0                        | 2.0   |
| pH                             | (2)                        | (2)   |

<sup>1</sup> Values in picocuries per liter (pCi/l).<sup>2</sup> Within the range 6.0 to 9.0.

(2) The concentrations of pollutants discharged from mills using the acid leach, alkaline leach or combined acid and alkaline leach process for the extraction of uranium, radium and vanadium including mill-mine facilities and mines using in-situ leach methods may not exceed:

| Effluent characteristic        | [BPT] Effluent limitations |   |
|--------------------------------|----------------------------|---|
|                                | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                                | Milligrams per liter       |   |
| TSS                            | 30.0                       | 20.0  |
| COD                            | —                          | 500.0   |
| As                             | 1.0                        | 0.5   |
| Zn                             | 1.0                        | 0.5   |
| Ra226 <sup>1</sup> (dissolved) | 10.0                       | 3.0   |
| Ra226 <sup>1</sup> (total)     | 30.0                       | 10.0  |
| NH <sub>3</sub>                | —                          | 100.0   |
| pH                             | (2)                        | (2)   |

<sup>1</sup> Values in picocuries per liter (pCi/l).<sup>2</sup> Within the range 6.0 to 9.0.**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.033 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30 – 125.32, any existing point source subject to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines either open-pit or underground, that produce uranium ore, including mines using in-situ leach methods, may not exceed:

| Effluent characteristic        | [BAT] Effluent limitations |   |
|--------------------------------|----------------------------|---|
|                                | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                                | Milligrams per liter       |   |
| COD                            | 200.0                      | 100.0   |
| Zn                             | 1.0                        | 0.5   |
| Ra226 <sup>1</sup> (dissolved) | 10.0                       | 3.0   |
| Ra226 <sup>1</sup> (total)     | 30.0                       | 10.0  |
| U                              | 4.0                        | 2.0   |

<sup>1</sup> Values in picocuries per liter (pCi/l).**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.034 New source performance standards (NSPS).** Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from mines, either open-pit or underground, that produce uranium ore, excluding mines using in-situ leach methods, may not exceed:

| Effluent characteristic        | [NSPS] Effluent limitations |   |
|--------------------------------|-----------------------------|---|
|                                | Maximum for any 1 day       | Average of daily values for 30 consecutive days |
|                                | Milligrams per liter        |   |
| TSS                            | 30.0                        | 20.0  |
| COD                            | 200.0                       | 100.0   |
| Zn                             | 1.0                         | 0.5   |
| Ra226 <sup>1</sup> (dissolved) | 10.0                        | 3.0   |
| Ra226 <sup>1</sup> (total)     | 30.0                        | 10.0  |
| U                              | 4.0                         | 2.0   |
| pH                             | (2)                         | (2)   |

<sup>1</sup> Values in picocuries per liter (pCi/l).<sup>2</sup> Within the range 6.0 to 9.0.



(2) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills using the acid leach, alkaline leach or combined acid and alkaline leach process for the extraction of uranium or from mines and mills using in-situ leach methods.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

**History:** Cr. Register, October, 1986, No. 3y0, eff. 11-1-86.

**NR 270.04 Applicability; description of the mercury ore subcategory.** The provisions of this subcategory are applicable to discharges from:

(1) Mines, either open-pit or underground, that produce mercury ores; and

(2) Mills beneficiating mercury ores by gravity separation methods or by froth-flotation methods.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.042 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable after application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines, either open-pit or underground, operated for the production of mercury ores may not exceed the following limitations:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| TSS                        | 30.0                  | 20.0  |
| Hg                         | 0.002                 | 0.001   |
| Ni                         | 0.2                   | 0.1   |
| pH                         | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(2) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills beneficiating mercury ores by gravity separation methods or by froth flotation methods.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in par. (a).

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.043 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines, either open pit or underground, that produce mercury ores may not exceed:

| [BAT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| Hg                         | 0.002                 | 0.001   |

(2) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills beneficiating mercury ores by gravity separation methods or by froth-flotation methods.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.044 New source performance standards (NSPS).** Except as provided in ss. NR 270.0015, 270.002, and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from mines either open pit or underground, that produce mercury ores may not exceed:

| [NSPS] Effluent limitations |                       |   |
|-----------------------------|-----------------------|---|
| Effluent characteristic     | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                             |                       | Milligrams per liter                            |
| TSS                         | 30.0                  | 20.0  |
| Hg                          | 0.002                 | 0.001   |
| pH                          | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(2) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills beneficiating mercury ores by gravity separation methods or by froth-flotation methods.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.05 Applicability; description of the titanium ore subcategory.** The provisions of this subcategory are applicable to discharges from:

(1) Mines obtaining titanium ores from lode deposits,

(2) Mills beneficiating titanium ores by electrostatic methods, magnetic and physical methods, or flotation methods; and

(3) Mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, zircon, and other heavy metals, and the milling techniques employed in conjunction with the dredge mining activity (milling techniques employed include the use of wet gravity methods in conjunction with electrostatic or magnetic methods).

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.052 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30–125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable after application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines obtaining titanium ores from lode deposits may not exceed:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| TSS                        | 30.0                  | 20.0  |
| Fe                         | 2.0                   | 0.001   |
| pH                         | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(2) The concentration of pollutants discharged from mills beneficiating titanium ores by electrostatic methods, magnetic and physical methods, or flotation methods may not exceed:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| TSS                        | 30.0                  | 20.0  |
| Zn                         | 1.0                   | 0.5   |
| Ni                         | 0.2                   | 0.1   |
| pH                         | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(3) The concentration of pollutants discharged in mine drainage from mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, zircon, or other heavy metals, and the milling techniques employed in conjunction with the dredge mining activity (milling techniques employed include the use of wet gravity metals in conjunction with electrostatic or magnetic methods) may not exceed:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| TSS                        | 30.0                  | 20.0  |
| Fe                         | 2.0                   | 1.0   |
| pH                         | (1)                   | (1)   |

**History:** Cr. Register, October, 1986, No. 370, eff. 11–1–86.

**NR 270.053 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30–125.32, any existing point source subject to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines obtaining titanium ores from lode deposits may not exceed:

| [BAT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| Fe                         | 2.0                   | 1.0   |

(2) The concentration of pollutants discharged from mills beneficiating titanium ores by electrostatic methods, magnetic and physical methods, or flotation methods may not exceed:

| [BAT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| Zn                         | 1.0                   | 0.5   |

(3) The concentration of pollutants discharged in mine drainage from mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, or zircon and the milling techniques employed in conjunction with the dredge mining activity (milling techniques employed include the use of wet gravity methods in conjunction with electrostatic or magnetic methods) may not exceed:

| [BAT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| Fe                         | 2.0                   | 1.0   |

**History:** Cr. Register, October, 1986, No. 370, eff. 11–1–86.

**NR 270.054 New source performance standards (NSPS).** Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

(1) The concentration of pollutants discharged in mine drainage from mines obtaining titanium ores from lode deposits may not exceed:

| [NSPS] Effluent limitations |                       |   |
|-----------------------------|-----------------------|---|
| Effluent characteristic     | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                             |                       | Milligrams per liter                            |
| TSS                         | 30.0                  | 20.0  |
| Fe                          | 2.0                   | 1.0   |
| pH                          | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(2) The concentration of pollutants discharged from mills beneficiating titanium ores by electrostatic methods, magnetic and physical methods, or flotation methods may not exceed:

| [NSPS] Effluent limitations |                       |   |
|-----------------------------|-----------------------|---|
| Effluent characteristic     | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                             |                       | Milligrams per liter                            |
| TSS                         | 30.0                  | 20.0  |
| Zn                          | 1.0                   | 0.5   |
| pH                          | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(3) The concentration of pollutants discharged in mine drainage from mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, or zircon and the milling techniques employed in conjunction with the dredge mining activity (milling techniques employed include the use of wet gravity methods in conjunction with electrostatic or magnetic methods) may not exceed:

| [NSPS] Effluent limitations |                       |   |
|-----------------------------|-----------------------|---|
| Effluent characteristic     | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                             |                       | Milligrams per liter                            |
| TSS                         | 30.0                  | 20.0  |
| Fe                          | 2.0                   | 1.0   |
| pH                          | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

**History:** Cr. Register, October, 1986, No. 370, eff. 11–1–86.

**NR 270.06 Applicability; description of the tungsten ore subcategory.** The provisions of this subcategory are applicable to discharges from:

- (1) Mines that produce tungsten ore; and
- (2) Mills that process tungsten ore by either the gravity separation or froth-flotation methods.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.062 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

- (1) The concentration of pollutants in mine drainage from mines producing 5000 metric tons (5512 short tons) or more of tungsten bearing ores per year may not exceed:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| TSS                        | 30.0                  | 20.0  |
| Cd                         | 0.1                   | 0.05  |
| Cu                         | 0.3                   | 0.15  |
| Zn                         | 1.0                   | 0.5   |
| Pb                         | 0.6                   | 0.3   |
| As                         | 1.0                   | 0.5   |
| pH                         | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

- (2) The concentration of pollutants discharged in mine drainage from mines producing less than 5000 metric tons (5512 short tons) or discharged from mills processing less than 5000 metric tons (5512 short tons) of tungsten ores per year by methods other than ore leaching may not exceed:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| TSS                        | 50.0                  | 30.0  |
| pH                         | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

- (3) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of tungsten ores per year by purely physical methods including ore crushing, washing, jigging, heavy media separation, and magnetic and electrostatic separation may not exceed:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| TSS                        | 30.0                  | 20.0  |
| Cd                         | 0.1                   | 0.05  |
| Cu                         | 0.3                   | 0.15  |
| Zn                         | 1.0                   | 0.5   |
| As                         | 1.0                   | 0.5   |
| pH                         | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

- (4) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of tungsten ores per year by froth flotation methods may not exceed:

| [BPT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| TSS                        | 30.0                  | 20.0  |
| Cd                         | 0.1                   | 0.05  |
| Cu                         | 0.3                   | 0.15  |
| Zn                         | 1.0                   | 0.5   |
| As                         | 1.0                   | 0.5   |
| pH                         | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.063 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

- (1) The concentration of pollutants discharged in mine drainage from tungsten mines may not exceed:

| [BAT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| Cd                         | 0.1                   | 0.05  |
| Cu                         | 0.3                   | 0.15  |
| Zn                         | 1.0                   | 0.5   |

- (2) The concentration of pollutants discharged from mills may not exceed:

| [BAT] Effluent limitations |                       |   |
|----------------------------|-----------------------|---|
| Effluent characteristic    | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                            |                       | Milligrams per liter                            |
| Cd                         | 0.1                   | 0.05  |
| Cu                         | 0.3                   | 0.15  |
| Zn                         | 1.0                   | 0.5   |

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.064 New source performance standards (NSPS).** Except as provided in ss. NR 270.0015, 270.002 and 270.003, any new source subject to this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BADT):

- (1) The concentration of pollutants discharged in mine drainage from tungsten mines may not exceed:

| [NSPS] Effluent limitations |                       |   |
|-----------------------------|-----------------------|---|
| Effluent characteristic     | Maximum for any 1 day | Average of daily values for 30 consecutive days |
|                             |                       | Milligrams per liter                            |
| TSS                         | 30.0                  | 20.0  |
| Cd                          | 0.1                   | 0.05  |
| Cu                          | 0.3                   | 0.15  |
| Zn                          | 1.0                   | 0.5   |
| pH                          | (1)                   | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

- (2) The concentration of pollutants discharged from mills may not exceed:

| Effluent characteristic | [NSPS] Effluent limitations |   |
|-------------------------|-----------------------------|---|
|                         | Maximum for any 1 day       | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter        |   |
| TSS                     | 30.0                        | 20.0  |
| Cd                      | 0.1                         | 0.05  |
| Cu                      | 0.3                         | 0.15  |
| Zn                      | 1.0                         | 0.5   |
| pH                      | (1)                         | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.07 Applicability; description of the nickel ore subcategory.** The provisions of this subcategory are applicable to discharges from:

- (1) Mines that produce nickel ore; and
- (2) Mills that process nickel ore.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.072 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines producing 5000 metric tons (5512 short tons) or more of nickel bearing ores per year may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| TSS                     | 30.0                       | 20.0  |
| Cd                      | 0.1                        | 0.05  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| Pb                      | 0.6                        | 0.3   |
| As                      | 1.0                        | 0.5   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(2) The concentration of pollutants discharged in mine drainage from mines producing less than 5000 metric tons (5512 short tons) or discharged from mills processing less than 5000 metric tons (5512 short tons) of nickel ores per year by methods other than ore leaching may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| TSS                     | 50.0                       | 30.0  |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(3) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of nickel ores per year by purely physical methods including ore crushing, washing, jigging, heavy media separation, and magnetic and electrostatic separation may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| TSS                     | 30.0                       | 20.0  |
| Cd                      | 0.1                        | 0.05  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| As                      | 1.0                        | 0.5   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(4) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of nickel ore per year by froth flotation methods may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| TSS                     | 30.0                       | 20.0  |
| Cd                      | 0.1                        | 0.05  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| As                      | 1.0                        | 0.5   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.08 Applicability; description of the vanadium ore subcategory.** The provisions of this subcategory are applicable to discharge from:

- (1) Mines that produce vanadium ore (recovered alone and not as a by-product of uranium mining and mills); and
- (2) Mills that process vanadium ore (recovered alone, not as a by-product of uranium mining and mills).

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.082 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines producing 5000 metric tons (5512 short tons) or more of vanadium bearing ores per year may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| TSS                     | 30.0                       | 20.0  |
| Cd                      | 0.1                        | 0.05  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| Pb                      | 0.6                        | 0.3   |
| As                      | 1.0                        | 0.5   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0



(2) The concentration of pollutants discharged in mine drainage from mines producing less than 5000 metric tons (5512 short tons) or discharged from mills processing less than 5000 metric tons (5512 short tons) of vanadium ore per year by methods other than ore leaching may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
| Milligrams per liter    |                            |   |
| TSS                     | 50.0                       | 30.0  |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(3) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of vanadium ores per year by purely physical methods including ore crushing, washing, jigging, heavy media separation, and magnetic and electrostatic separation may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
| Milligrams per liter    |                            |   |
| TSS                     | 30.0                       | 20.0  |
| Cd                      | 0.1                        | 0.05  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| As                      | 1.0                        | 0.5   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(4) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of vanadium ores per year by froth flotation methods may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
| Milligrams per liter    |                            |   |
| TSS                     | 30.0                       | 20.0  |
| Cd                      | 0.1                        | 0.05  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| As                      | 1.0                        | 0.5   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.09 Applicability; description of the antimony ore subcategory.** The provisions of this subcategory are applicable to discharges from:

(1) Mines that produce antimony ore; and

(2) Mills that process antimony ore.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.10 Applicability; description of the copper, lead, zinc, gold, silver, and molybdenum ores subcategory.** The provisions of this subcategory are applicable to discharges from:

(1) Mines that produce copper, lead, zinc, gold, silver, or molybdenum bearing ores, or any combination of these ores from open-pit or underground operations other than placer deposits;

(2) Mills that use the froth-flotation process alone or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores, or any combination of these ores;

(3) Mines and mills that use dump, heap, in-situ leach or vat-leach processes to extract copper from ores or ore waste materials;

(4) Mills that use the cyanidation process to extract gold or silver; and

(5) Mines or mines and mills that use gravity separation methods (including placer or dredge mining or concentrating operations, and hydraulic mining operations) to extract gold ores or silver ores.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.102 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology (BPT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(1) The concentration of pollutants discharged in mine drainage from mines operated to obtain copper bearing ores, lead bearing ores, zinc bearing ores, gold bearing ores, or silver bearing ores, or any combination of these ores open-pit or underground operations other than placer deposits may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
| Milligrams per liter    |                            |   |
| TSS                     | 30.0                       | 20.0  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.75  |
| Pb                      | 0.6                        | 0.3   |
| Hg                      | 0.002                      | 0.001   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(2) The concentration of pollutants discharged from mills which employ the froth flotation process alone or in conjunction with other processes, for the beneficiation of copper ores, lead ores, zinc ores, gold ores, or silver ores, or any combination of these ores may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
| Milligrams per liter    |                            |   |
| TSS                     | 30.0                       | 20.0  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| Pb                      | 0.6                        | 0.3   |
| Hg                      | 0.002                      | 0.001   |
| Cd                      | 0.1                        | 0.05  |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(3) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable water from mines and mills which employ dump, heap, in-situ leach or vat leach processes for the extraction of copper from ores or ore waste materials.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

(4) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills which extract gold or silver by use of the cyanidation process.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation

falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

**Note:** The concentration of pollutants discharged in mine drainage from mines of discharged from mine and mill complexes beneficiating gold ores or silver ores by gravity separation methods including mining of placer deposits, dredge mining and hydraulic mining operations will be proposed and promulgated at a later date.

(6) The concentration of pollutants discharged in mine drainage from mines producing 5000 metric tons (5512 short tons) or more of molybdenum bearing ores per year may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| TSS                     | 30.0                       | 20.0  |
| Cd                      | 0.10                       | 0.05  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| Pb                      | 0.6                        | 0.3   |
| As                      | 1.0                        | 0.5   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(7) The concentration of pollutants discharged in mine drainage from mines producing less than 5000 metric tons (5512 short tons) or discharged from mills processing less than 5000 metric tons (5512 short tons) of molybdenum ores per year by methods other than ore leaching may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| TSS                     | 50.0                       | 30.0  |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(8) The concentration of pollutants discharged from mills processing 5,000 metric tons (5,512 short tons) or more of molybdenum ores per year by purely physical methods including ore crushing, washing, jigging, and heavy media separation may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| TSS                     | 30.0                       | 20.0  |
| Cd                      | 0.1                        | 0.05  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| As                      | 1.0                        | 0.5   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(9) The concentration of pollutants discharged from mills processing 5000 metric tons (5512 short tons) or more of molybdenum ores per year by froth flotation methods may not exceed:

| Effluent characteristic | [BPT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| TSS                     | 30.0                       | 20.0  |
| Cd                      | 0.1                        | 0.05  |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| As                      | 1.0                        | 0.5   |
| pH                      | (1)                        | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.103 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines that produce copper, lead, zinc, gold, silver, or molybdenum bearing ores or any combination of these ores from open-pit or underground operations other than placer deposits may not exceed:

| Effluent characteristic | [BAT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.5                        | 0.75  |
| Pb                      | 0.6                        | 0.3   |
| Hg                      | 0.002                      | 0.001   |
| Cd                      | 0.1                        | 0.05  |

(2) The concentration of pollutants discharged from mills that use the froth flotation process alone, or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores or any combination of these ores may not exceed:

| Effluent characteristic | [BAT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| Pb                      | 0.6                        | 0.3   |
| Hg                      | 0.002                      | 0.001   |
| Cd                      | 0.1                        | 0.05  |

(3) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mine areas and mill processes and areas that use dump, heap, in-situ leach or vat-leach processes to extract copper from ores or ore waste materials.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

(4) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills that use the cyanidation process to extract gold or silver.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

**Note:** The concentration of pollutants discharged in mine drainage or discharged from mines and mills beneficiating gold or silver ores by gravity separation methods including mining of placer deposits, dredge mining and hydraulic mining operations will be proposed and promulgated at a later date.

**History:** Cr. Register, October, 1986, No. 30, eff. 11-1-86.

**NR 270.104 New source performance standards (NSPS).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any new source subject to

this subcategory shall achieve the following NSPS representing the degree of effluent reduction attainable by the application of the best available demonstrated technology (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines that produce copper, lead, zinc, gold, silver, or molybdenum bearing ores or any combination of these ores from open-pit or underground operations other than placer deposits may not exceed:

| Effluent characteristic | [NSPS] Effluent limitations |   |
|-------------------------|-----------------------------|---|
|                         | Maximum for any 1 day       | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter        |   |
| TSS                     | 30.0                        | 20.0  |
| Cu                      | 0.3                         | 0.15  |
| Zn                      | 1.5                         | 0.75  |
| Pb                      | 0.6                         | 0.3   |
| Hg                      | 0.002                       | 0.001   |
| Cd                      | 0.1                         | 0.05  |
| pH                      | (1)                         | (1)   |

<sup>1</sup> Within the range 6.0 to 9.0

(2) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills that use the froth-flotation process alone, or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores or any combination of these ores.

(b) 1. In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

2. In the event there is a build up of contaminants in the recycle water which significantly interferes with the ore recovery process and this interference cannot be eliminated through appropriate treatment of the recycle water, the permitting authority may allow a discharge of process wastewater in an amount necessary to correct the interference problem after installation of appropriate treatment. This discharge shall be subject to the limitations of sub. (1). The facility shall have the burden of demonstrating to the department that that discharge is necessary to eliminate interference in the ore recovery process and that the interference could not be eliminated through appropriate treatment of the recycle water.

(3) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mine areas and mill processes and areas that use dump, heap, in-situ leach or vat-leach processes to extract copper from ores or ore waste materials.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

(4) (a) Except as provided in this subsection, there may not be discharge of process wastewater to navigable waters from mills that use the cyanidation process to extract gold or silver.

(b) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface

runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in sub. (1).

**Note:** The concentration of pollutants discharged in mine drainage or discharged from mines and mills beneficiating gold or silver ores by gravity separation methods including mining of placer deposits, dredge mining and hydraulic mining operations will be proposed and promulgated at a later date.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.11 Applicability; description of the platinum ore subcategory.** The provisions of this subcategory are applicable to discharges from:

(1) Mines that produce platinum ore; and

(2) Mills that process platinum ore.

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.113 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).** Except as provided in ss. NR 270.0015, 270.002 and 270.003 and 40 CFR 125.30-125.32, any existing point source subject to this subcategory shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(1) The concentration of pollutants discharged in mine drainage from mines that produce platinum bearing ores from open-pit or underground operations other than placer deposits may not exceed:

| Effluent characteristic | [BAT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.5                        | 0.75  |
| Pb                      | 0.8                        | 0.3   |
| Hg                      | 0.002                      | 0.06  |
| Cd                      | 0.1                        | 0.06  |

(2) The concentration of pollutants discharged from mills that use the froth-flotation process alone, or in conjunction with other processes, for the beneficiation of platinum ores may not exceed:

| Effluent characteristic | [BAT] Effluent limitations |   |
|-------------------------|----------------------------|---|
|                         | Maximum for any 1 day      | Average of daily values for 30 consecutive days |
|                         | Milligrams per liter       |   |
| Cu                      | 0.3                        | 0.15  |
| Zn                      | 1.0                        | 0.5   |
| Pb                      | 0.6                        | 0.3   |
| Hg                      | 0.002                      | 0.001   |
| Cd                      | 0.1                        | 0.05  |

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86.

**NR 270.12 Cross-references.** The federal citations in this chapter correspond to provisions of the Wisconsin Administrative Code and Wisconsin Statutes. The federal citations may be cross-referenced in the following table:

| Code of Federal Regulations | Corresponding State Code Section |
|-----------------------------|----------------------------------|
| 40 CFR Part 40              | ch. NR 270                       |
| 40 CFR 122.41 (m)           | NR 205.07 (3)                    |
| 40 CFR 122.41 (n)           | NR 205.03 (41)                   |
| 40 CFR 125.30-125.32        | NR 211.14, s. 283.13 (3), Stats. |
| 40 CFR Part 401             | chs. NR 205, 215, 219            |

**History:** Cr. Register, October, 1986, No. 370, eff. 11-1-86; correction made under s. 13.93 (2m) (b) 7., Stats., Register, November, 1997.